

## ABSTRACT

The invention involves a device and method for ascertaining the functioning of the respiratory system and determining the cause of abnormal respiratory function. The device comprises an apparatus for measuring the flow of air from a patient's breath and determining the concentration of gases contained therein via real-time spectrometry. From this data, a processor computes the ratio of detected gases relative to each other and as a function of expired volume and plots the calculations on a display screen. Based on various plots, a physician can more easily estimate the probability of a number of pulmonary diseases and afflictions, such as pulmonary embolism, emphysema, congestive heart failure, infection, and related problems.